

GenCore version 4.5
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OM protein - protein search, using sw model

Run on: January 7, 2002, 16:05:23 ; Search time 77.81 Seconds
(without alignments)
25.917 Million cell updates/sec

Title: US-08-569-749-5
Perfect score: 307
Sequence: 1 CELYRMSYSTFPAGVPVSE.....KVKCFCCGLMDNWKLGDSF 55

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 100059 seqs, 3664827 residues
Total number of hits satisfying chosen parameters: 100059

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : SwissProt.39.*
Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	307	100.0	618	1	BIR3_HUMAN
2	301	98.0	604	1	BIR2_HUMAN
3	291	94.8	612	1	BIR3_MOUSE
4	284	92.5	600	1	BIR2_MOUSE
5	247	80.5	611	1	BIR_CHICK
6	159	51.8	497	1	BIR4_HUMAN
7	153	49.8	496	1	BIR4_MOUSE
8	152	49.5	496	1	BIR4_RAT
9	140	45.6	358	1	PIAP_PIG
10	134	43.6	1402	1	BIRG_MOUSE
11	134	43.6	1403	1	BIRE_MOUSE
12	133	43.3	1403	1	BIRF_MOUSE
13	132	43.0	268	1	IAP3_NPYOP
14	127	41.4	438	1	IAP1_DRKME
15	125	40.7	1403	1	BIR1_HUMAN
16	122	39.7	1447	1	BIRB_MOUSE
17	119	38.8	239	1	ZFP_IRV6
18	109	35.5	1403	1	BIRK_MOUSE
19	103.5	33.7	275	1	IAP_GVCP
20	102	33.2	498	1	IAP2_DRKME
21	93	30.3	275	1	IAP1_NPYOP
22	83.5	27.2	286	1	IAP1_NPVAC
23	75	24.4	224	1	IAPL_ASFB7
24	73.5	23.9	142	1	BIR5_HUMAN
25	72.5	23.6	997	1	BIRL_SCHPO
26	71.5	23.3	4829	1	BIR6_HUMAN
27	70.5	23.0	140	1	BIR5_MOUSE
28	68.5	22.3	224	1	IAPL_ASFC3
29	68.5	22.3	224	1	IAPL_ASFC4
30	68.5	22.3	224	1	IAPL_ASFC1
31	68.5	22.3	238	1	IAPL_ASFC2
32	61.5	20.0	142	1	BIR5_RAT
33	60	19.5	1401	1	WRN_MOUSE

34	57	18.6	707	1	ORC1_SCHPO	P54789 schizosacch
35	56	18.2	249	1	IAP2_NPVAC	P41454 autographa
36	56	18.2	1432	1	WRN_HUMAN	O14191 homo sapien
37	54.5	17.8	458	1	YMW6_CAEEL	P34508 caenorhabdi
38	54.5	17.8	954	1	BIR1_YEAST	P47134 saccharomyc
39	54.5	17.8	1192	1	METH_MYCTU	O33259 mycobacteri
40	53.5	17.4	949	1	IF2_HELPJ	O92m46 helicobacte
41	53.5	17.4	1025	1	HIRA_FUGRU	O42611 fugu rubrip
42	52.5	17.1	914	1	GUX2_CLOSR	P50900 clostridium
43	52	16.9	254	1	FTSO_STRCU	O86038 streptomyce
44	52	16.9	962	1	ENV_SFV3L	P27399 simian foam
45	51.5	16.8	244	1	Y2BK_SSV1	P20213 sulfolobus

ALIGNMENTS

RESULT 1
BIR3_HUMAN STANDARD; PRT; 618 AA.
AC Q13490: Q16516;
DT 01-NOV-1997 (Rel. 35, Created)
DT 01-NOV-1997 (Rel. 35, last sequence update)
DT 20-AUG-2001 (Rel. 40, last annotation update)
DE BACULOVIRAL IAP REPEAT-CONTAINING PROTEIN 3 (INHIBITOR OF APOPTOSIS
DE PROTEIN 2) (IAP2) (H1AP-2) (C-IAP1) (TNFR2-TRAF SIGNALING COMPLEX
DE PROTEIN 2) (IAP HOMOLOG B).
GN BIR3 OR AIP2 OR IAP2 OR MIB.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Homiidae; Homo.
OX NCBI_TaxID=9606;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE-96128127; PubMed-8548810;
RA Rothe M., Pan M.-G., Henzel W.J., Ayres T.M., Goeddel D.V.;
RT "The TNFR2-TRAF signaling complex contains two novel proteins related
RT to baculoviral inhibitor of apoptosis proteins.";
RL Cell 83:1243-1252(1995).
RN [2]
RP SEQUENCE FROM N.A.
RX MEDLINE-96149249; PubMed-8552191;
RA Liston P., Roy N., Tamai K., Lefebvre C., Baird S., Chertton-Horvat G.,
RA Farahani R., McLean M., Ikeda U., Mackenzie A., Korneluk R.G.;
RT "Suppression of apoptosis in mammalian cells by NAIp and a related
RT family of IAP genes.";
RL Nature 379:349-353(1996).
RN [3]
RP SEQUENCE FROM N.A.
RX MEDLINE-96209843; PubMed-8643514;
RA Uren A.G., Pakusch M., Hawkins C.J., Puls K.L., Vaux D.L.;
RT "Cloning and expression of apoptosis inhibitory protein homologs that
RT function to inhibit apoptosis and/or bind tumor necrosis factor
RT receptor-associated factors.";
RL Proc. Natl. Acad. Sci. U.S.A. 93:4974-4978(1996).
RN [4]
RP STRUCTURE BY NMR OF 266-363.
RX MEDLINE-99332054; PubMed-10404221;
RA Hinds M.G., Norton R.S., Vaux D.L., Day C.L.;
RT "solution structure of a baculoviral inhibitor of apoptosis (IAP)
RT repeat.";
RL Nat. Struct. Biol. 6:648-651(1999).
CC -I- FUNCTION: APOPTOTIC SUPPRESSOR. THE BIR MOTIFS REGION INTERACTS
CC WITH TNF RECEPTOR ASSOCIATED FACTORS 1 AND 2 (TRAF1 AND TRAF2) TO
CC FORM AN HETEROMERIC COMPLEX, WHICH IS THEN RECRUITED TO THE TUMOR
CC NECROSIS FACTOR RECEPTOR 2 (TNFR2).
CC -I- SUBCELLULAR LOCATION: CYTOPLASMIC (POTENTIAL).
CC -I- TISSUE SPECIFICITY: PRESENT IN MANY FETAL AND ADULT TISSUES.
CC MAINLY EXPRESSED IN ADULT SKELETAL MUSCLE, THYMUS, TESTIS, OVARY,
CC AND PANCREAS, LOW OR ABSENT IN BRAIN AND PERIPHERAL BLOOD
CC LEUKOCYTES.

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CC -1- SIMILARITY: BELONGS TO THE IAP FAMILY.
CC -1- SIMILARITY: CONTAINS 3 BIR REPEATS.
CC -1- SIMILARITY: CONTAINS 1 CARD DOMAIN.
CC -1- SIMILARITY: CONTAINS 1 RING-TYPE ZINC FINGER.
CC -----
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CC -----
DR EMBL: L49431; AAC41942.1; -
DR EMBL: U45879; AAC50372.1; -
DR EMBL: U37547; AAC50508.1; -
DR PDB: 10BH; 20-OCT-99.
DR MIM: 601721; -
DR InterPro: IPR001370; BIR.
DR InterPro: IPR001315; CARD.
DR InterPro: IPR001841; Znf_fing.
DR Pfam: PF00653; BIR; 3.
DR Pfam: PF00619; CARD; 1.
DR Pfam: PF00097; Zf-C3HC4; 1.
DR SMART: SM00238; BIR; 3.
DR SMART: SM00114; CARD; 1.
DR SMART: SM00184; RING; 1.
DR PROSITE: PS01282; BIR_REPEAT_1; 3.
DR PROSITE: PS50143; BIR_REPEAT_2; 3.
DR PROSITE: PS50209; CARD; 1.
DR Apoptosis; Zinc-finger; Repeat; 3D-structure.
DR Repeat 46 113 BIR 1.
DR Repeat 184 250 BIR 2.
DR Repeat 269 336 BIR 3.
DR DOMAIN 453 539 CARD.
DR ZN_FING 571 605 RING-TYPE.
DR CONFLICT 157 157 S -> P (IN REF. 2).
DR CONFLICT 308 308 C -> G (IN REF. 2).
DR CONFLICT 414 414 Q -> L (IN REF. 2).
DR CONFLICT 514 514 L -> W (IN REF. 2).
DR SEQUENCE 618 AA; 69899 MW; C177BD328063586D CRC64;

Query Match 100.0%; Score 307; DB 1; Length 618;
Best Local Similarity 100.0%; Pred. No. 1.5e-32;
Matches 55; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 CELYRSTSTSPFAGVPSERSIARAGFYTGVDNKKVCFCCGLMDNKKLDSP 55
DB 45 CELYRSTSTSPFAGVPSERSIARAGFYTGVDNKKVCFCCGLMDNKKLDSP 99

RESULT 2
BIR2_HUMAN STANDARD; PRT; 604 AA.
AC Q13489; Q1628; Q9UP46;
DT 01-NOV-1997 (Rel. 35; Created)
DT 01-NOV-1997 (Rel. 35; Last sequence update)
DT 20-AUG-2001 (Rel. 40; Last annotation update)
DE BACULOVIRAL IAP REPEAT-CONTAINING PROTEIN 1 (INHIBITOR OF APOPTOSIS
DE PROTEIN 1) (IAP HOMOLOG C).
GN BIRC2 OR API1 OR IAP1 OR MIMC.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Hominoidea; Homo.
OX NCBI_TaxID=9606;
RN 11
RP MEDLINE FROM N.A.
RX MEDLINE-96128127; PubMed-8548810;
RA Rothe M., Pan M.-G., Henzel W.J., Ayres T.M., Goeddel D.V.;
RT "The TNFR2-TRAF signaling complex contains two novel proteins related
to baculoviral inhibitor of apoptosis proteins.";
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RL Cell 83:1243-1252(1995).
RN 121
RP SEQUENCE FROM N.A.
RC TISSUE=Liver;
RX MEDLINE-96149249; PubMed-8552191;
RA Liston P., Roy N., Tamai K., Lefebvre C., Baird S., Chertion-Horvat G.,
RA Farahani R., McLean M., Ikeda J., Mackenzie A., Korneluk R.G.;
RT "Suppression of apoptosis in mammalian cells by NAIP and a related
RT family of IAP genes.";
RN Nature 379:349-353(1996).
RN 131
RP SEQUENCE FROM N.A.
RC TISSUE=Fetal Liver;
RX MEDLINE-96209843; PubMed-8643514;
RA Uren A.G., Pakusch M., Hawkins C.J., Puls K.L., Vaux D.L.;
RT "Cloning and expression of apoptosis inhibitory protein homologs that
RT function to inhibit apoptosis and/or bind tumor necrosis factor
RT receptor-associated factors.";
RN Proc. Natl. Acad. Sci. U.S.A. 93:4974-4978(1996).
RN 141
RP SEQUENCE FROM N.A.
RX MEDLINE-99252096; PubMed-10233894;
RA Horrevorts A.J., Fontijn R.D., van Zonneveld A.J., de Vries C.J.,
RA ten Cate J.W., Pannekoek H.;
RT "Vascular endothelial genes that are responsive to tumor necrosis
RT factor-alpha in vitro are expressed in atherosclerotic lesions,
RT including inhibitor of apoptosis protein-1, stannin, and two novel
RT genes.";
RN Blood 93:3418-3431(1999).
CC -1- FUNCTION: APOPTOTIC SUPPRESSOR. THE BIR MOTIF REGION INTERACTS
CC WITH TNF RECEPTOR ASSOCIATED FACTORS 1 AND 2 (TRAF1 AND TRAF2) TO
CC FORM AN HETEROOMERIC COMPLEX, WHICH IS THEN RECRUITED TO THE TUMOR
CC NECROSIS FACTOR RECEPTOR 2 (TNFR2).
CC -1- SUBCELLULAR LOCATION: CYTOPLASMIC (POMENTAL).
CC -1- TISSUE SPECIFICITY: HIGHLY EXPRESSED IN FETAL LUNG, AND KIDNEY. IN
CC THE ADULT, EXPRESSION IS MAINLY SEEN IN LYMPHOID TISSUES,
CC INCLUDING SPLEEN, THYMUS AND PERIPHERAL BLOOD LYMPHOCYTES.
CC -1- SIMILARITY: BELONGS TO THE IAP FAMILY.
CC -1- SIMILARITY: CONTAINS 3 BIR REPEATS.
CC -1- SIMILARITY: CONTAINS 1 CARD DOMAIN.
CC -1- SIMILARITY: CONTAINS 1 RING-TYPE ZINC FINGER.
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CC -----
DR EMBL: L49432; AAC41943.1; -
DR EMBL: U45878; AAC50371.1; -
DR EMBL: U37546; AAC50507.1; -
DR EMBL: AF070674; AAC83232.1; -
DR MIM: 601712; -
DR InterPro: IPR001370; BIR.
DR InterPro: IPR001315; CARD.
DR InterPro: IPR001841; Znf_fing.
DR Pfam: PF00653; BIR; 3.
DR Pfam: PF00619; CARD; 1.
DR Pfam: PF00097; Zf-C3HC4; 1.
DR SMART: SM00238; BIR; 3.
DR SMART: SM00114; CARD; 1.
DR SMART: SM00184; RING; 1.
DR PROSITE: PS01282; BIR_REPEAT_1; 3.
DR PROSITE: PS50143; BIR_REPEAT_2; 3.
DR PROSITE: PS50209; CARD; 1.
DR Apoptosis; Zinc-finger; Repeat.
DR Repeat 29 96 BIR 1.
DR Repeat 169 235 BIR 2.
DR Repeat 255 322 BIR 3.
DR DOMAIN 447 525 CARD.
DR ZN_FING 557 591 RING-TYPE.
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FT CONFLICT 18 18 N -> Y (IN REF. 4).
FT CONFLICT 119 119 N -> H (IN REF. 2).
FT CONFLICT 153 153 D -> E (IN REF. 2).
FT CONFLICT 163 163 H -> P (IN REF. 2).
FT CONFLICT 165 165 A -> P (IN REF. 2).
FT CONFLICT 191 191 K -> R (IN REF. 2).
FT CONFLICT 364 364 F -> L (IN REF. 2).
FT CONFLICT 552 552 Q -> P (IN REF. 2).
SO SEQUENCE 604 AA: 68371 MW: 8581A00BA9AAB4A7 CRC64:

Query Match 98.0%; Score 301; DB 1; Length 604;
Best Local Similarity 98.2%; Pred. No. 9, 1e-33;
Matches 54; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Oy 1 CELMYSTYTFPPAGVPVSESLARAGFYTYGVNDKVCFCGGLMDNMKRGDSP 55
Dd 28 CELMYSTYTFPPAGVPVSESLARAGFYTYGVNDKVCFCGGLMDNMKRGDSP 82

RESULT 3
BIR3_MOUSE STANDARD: PRT: 612 AA.
ID BIR3_MOUSE
AC 062210: C00864:
DT 01-NOV-1997 (Rel. 35, Created)
DT 01-NOV-1997 (Rel. 35, Last sequence update)
DT 20-AUG-2001 (Rel. 40, Last annotation update)
DE BACULOVIRAL IAP REPEAT-CONTAINING PROTEIN 3 (INHIBITOR OF APOPTOSIS
DE PROTEIN 2) (M1AP2) (M1AP-2).
GN BIRC3 OR API2 OR IAP2.
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX NCBI_TaxID=10090;
RN [1]
RN SEQUENCE FROM N.A., AND PARTIAL SEQUENCE.
RA MEDLINE=96128127; PubMed=8548810;
RA Rothe M., Pan M.-G., Henzel W.J., Ayres T.M., Goeddel D.V.;
RT "The TNFR2-TNRF signaling complex contains two novel proteins related
RT to baculoviral inhibitor of apoptosis proteins."
RL Cell 83:1243-1252(1995).
RN [2]
RN SEQUENCE FROM N.A.
RC TISSUE=Skeletal muscle;
RX MEDLINE=98110590; PubMed=9441758;
RX Liston P., Lefebvre C., Fong W.G., Xuan J.Y., Korneluk R.G.;
RT "Genomic characterization of the mouse inhibitor of apoptosis protein
RT 1 and 2 genes."
RL Genomics 46:495-503(1997).
CC -I- FUNCTION: APOPTOTIC SUPPRESSOR. THE BIR MOTIFS REGION INTERACTS
CC WITH TNF RECEPTOR ASSOCIATED FACTORS 1 AND 2 (TNF1 AND TNF2) TO
CC FORM AN HETEROMERIC COMPLEX, WHICH IS THEN RECRUITED TO THE TUMOR
CC NECROSIS FACTOR RECEPTOR 2 (TNFR2).
CC -I- SUBCELLULAR LOCATION: CYTOPLASMIC (POTENTIAL).
CC -I- TISSUE SPECIFICITY: EXPRESSED IN HEART, BRAIN, SPLEEN, LUNG,
CC LIVER, SKELETAL MUSCLE, KIDNEY, AND TESTIS.
CC -I- SIMILARITY: BELONGS TO THE IAP FAMILY.
CC -I- SIMILARITY: CONTAINS 3 BIR REPEATS.
CC -I- SIMILARITY: CONTAINS 1 CARD DOMAIN.
CC -I- SIMILARITY: CONTAINS 1 RING-TYPE ZINC FINGER.
CC -----
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CC -----
DR EMBL: LA9433; AACG2078.1; -
DR EMBL: 068909; AAC3352.1; -
DR MGD: MGI:1197009; Birc3.
DR InterPro: IPR001370; BIR.

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DR InterPro: IPR001315; CARD.
DR InterPro: IPR001841; Znf_fing.
DR Pfam: PF00653; BIR: 3.
DR Pfam: PF00619; CARD: 1.
DR Pfam: PF00097; zf-C3HC4; 1.
DR SMART: SM00238; BIR: 3.
DR SMART: SM00114; CARD: 1.
DR SMART: SM00184; RING: 1.
DR PROSITE: PS01282; BIR_REPEAT_1; 3.
DR PROSITE: PS0143; BIR_REPEAT_2; 3.
DR PROSITE: PS50209; CARD: 1.
KW Apoptosis; zinc-finger; Repeat.
FT REPEAT 46 113 BIR 1.
FT REPEAT 177 243 BIR 2.
FT REPEAT 262 329 BIR 3.
FT DOMAIN 447 533 CARD.
FT ZN_FING 565 599 RING-TYPE.
FT CONFLICT 380 380 E -> K (IN REF. 2).
SQ SEQUENCE 612 AA; 69676 MW; E08969D93C6C610D CRC64;

Query Match 94.8%; Score 291; DB 1; Length 612;
Best Local Similarity 94.5%; Pred. No. 1.9e-30;
Matches 52; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

Oy 1 CELYMSSTYSFPPAGVPSERSLACAGFYTYGVNKKVCCCGGLMDNMKGLDSP 55
    ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| |||
Db 45 CELYMSSTYSAPRGVPSERSLACAGFYTYGVNKKVCCCGGLMDNMKGLDSP 99

RESULT 4
BIR2_MOUSE STANDARD: PRT; 600 AA.
ID BIR2_MOUSE
AC 008863;
DF 01-NOV-1997 (Rel. 35, Created)
DT 01-NOV-1997 (Rel. 35, Last sequence update)
DT 20-AUG-2001 (Rel. 40, Last annotation update)
DE BACULOVIRAL IAP REPEAT-CONTAINING PROTEIN 2 (INHIBITOR OF APOPTOSIS
DE PROTEIN 1) (MIAP1).
DE BIRC2 OR API1 OR IAP1.
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX NCBI_TaxID=10090;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Skeletal muscle;
RX MEDLINE=98110590; PubMed=9441758;
RA Liston P., LeFebvre C., Fong W.G., Xuan J.Y., Korneluk R.G.;
RT "Genomic characterization of the mouse inhibitor of apoptosis protein
RT 1 and 2 genes."
RL Genomics 46:495-503(1997).
CC -1- FUNCTION: APOPTOTIC SUPPRESSOR. THE BIR MOTIFS REGION INTERACTS
CC WITH THE RECEPTOR ASSOCIATED FACTORS 1 AND 2 (TRAF1 AND TRAF2) TO
CC FORM AN HETEROOMERIC COMPLEX, WHICH IS THEN RECRUITED TO THE TUMOR
CC NECROSIS FACTOR RECEPTOR 2 (TNFR2) (BY SIMILARITY).
CC -1- SUBCELLULAR LOCATION: CYTOPLASMIC (POTENTIAL).
CC -1- SIMILARITY: BELONGS TO THE IAP FAMILY.
CC -1- SIMILARITY: CONTAINS 3 BIR REPEATS.
CC -1- SIMILARITY: CONTAINS 1 CARD DOMAIN.
CC -1- SIMILARITY: CONTAINS 1 RING-TYPE ZINC FINGER.
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CC -----
DR EMBL: U088908; AAC53531.1; -
DR MGD: MGI:1197007; Birc2.
DR InterPro: IPR001370; BIR.

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DR InterPro: IPR001315; CARD.
 DR InterPro: IPR001841; ZnF_fing.
 DR Pfam: PF00653; BIR_3.
 DR Pfam: PF00619; CARD; 1.
 DR Pfam: PF00097; zf-C3HC4; 1.
 DR SMART: SM00238; BIR; 3.
 DR SMART: SM00114; CARD; 1.
 DR SMART: SM00184; RING; 1.
 DR PROSITE: PS01282; BIR_REPEAT_1; 3.
 DR PROSITE: PS0143; BIR_REPEAT_2; 3.
 DR PROSITE: PS0209; CARD; 1.
 DR Apoptosis; Zinc-finger; Repeat.
 KW REPEAT 27 94 BIR 1.
 FT REPEAT 167 233 BIR 2.
 FT REPEAT 253 320 BIR 3.
 FT DOMAIN 444 512 CARD.
 FT ZN_FING 553 587 RING-TYPE.
 SQ SEQUENCE 600 AA: 67198 MW: AD7F73E6849317D1 CRC64:

Query Match 92.5%; Score 284; DB 1; Length 600;
 Best Local Similarity 90.9%; Pred. No. 1.5e-29;
 Matches 50; Conservative 1; Mismatches 4; Indels 0; Gaps 0;

OY 1 CELYRSTSTFPAGVPVSESLARAGFYTGVDKVCFCGGLMDNKLGDSP 55
 DB 26 CELYRSTSTFPAGVPVSESLARAGFYTGVDKVCFCGGLMDNKLGDSP 80

RESULT 5
 BIR_CHICK 5
 ID BIR_CHICK STANDARD; PRT; 611 AA.
 AC 090660;
 DT 01-NOV-1997 (Rel. 35, Created)
 DT 01-NOV-1997 (Rel. 35, Last sequence update)
 DT 20-NOV-2001 (Rel. 40, Last annotation update)
 DE INHIBITOR OF APOPTOSIS PROTEIN (IAP) (INHIBITOR OF T CELL APOPTOSIS
 DE PROTEIN).
 GN ITA.
 OS Gallus gallus (Chicken).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
 OC Gallus.
 OX NCBI_TaxID=9031;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Spleen;
 RX MEDLINE=97101112; PubMed=8945639;
 RA Dwyer M.R., Kimpton W.G., York J.J., Connick T.E., Lowenthal J.W.;
 RT "ITA, a vertebrate homologue of IAP that is expressed in T
 lymphocytes.";
 RL DNA Cell Biol. 15:981-988(1996).
 CC -1- FUNCTION: APOPTOTIC SUPPRESSOR (BY SIMILARITY).
 CC -1- SUBCELLULAR LOCATION: PREDOMINANTLY NUCLEAR.
 CC -1- TISSUE SPECIFICITY: CELLS OF THE T LYMPHOCYTE LINEAGE. FOUND IN
 CC BOTH CORTICAL AND MEDULLARY CELLS OF THE THYMUS.
 CC -1- DEVELOPMENTAL STAGE: HIGH LEVELS ARE INDUCED WITHIN 4-8 HOURS OF
 CC T-CELL ACTIVATION IN SPLEEN AND THYMUS.
 CC -1- SIMILARITY: BELONGS TO THE IAP FAMILY.
 CC -1- SIMILARITY: CONTAINS 3 BIR REPEATS.
 CC -1- SIMILARITY: CONTAINS 1 CARD DOMAIN.
 CC -1- SIMILARITY: CONTAINS 1 RING-TYPE ZINC FINGER.
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 CC -----
 CC EMBL: U27466; AAB48118.1; -
 DR InterPro: IPR001370; BIR.

DR InterPro: IPR001315; CARD.
 DR InterPro: IPR001841; ZnF_fing.
 DR Pfam: PF00653; BIR; 3.
 DR Pfam: PF00619; CARD; 1.
 DR Pfam: PF00097; zf-C3HC4; 1.
 DR SMART: SM00238; BIR; 3.
 DR SMART: SM00114; CARD; 1.
 DR SMART: SM00184; RING; 1.
 DR PROSITE: PS01282; BIR_REPEAT_1; 3.
 DR PROSITE: PS0143; BIR_REPEAT_2; 3.
 DR PROSITE: PS0209; CARD; 1.
 DR Apoptosis; Zinc-finger; Repeat.
 KW REPEAT 30 97 BIR 1.
 FT REPEAT 176 242 BIR 2.
 FT REPEAT 262 329 BIR 3.
 FT ZN_FING 564 598 RING-TYPE.
 SQ SEQUENCE 611 AA: 69009 MW: 53FC9136F34EBDD CRC64:

Query Match 80.5%; Score 247; DB 1; Length 611;
 Best Local Similarity 81.5%; Pred. No. 1.1e-24;
 Matches 44; Conservative 4; Mismatches 6; Indels 0; Gaps 0;

OY 1 CELYRSTSTFPAGVPVSESLARAGFYTGVDKVCFCGGLMDNKLGDSP 54
 DB 29 CELYRSTSTFPAGVPVSESLARAGFYTGVDKVCFCGGLMDNKLGDSP 82

RESULT 6
 BIR4_HUMAN
 ID BIR4_HUMAN STANDARD; PRT; 497 AA.
 AC P98170; Q9N014;
 DT 01-OCT-1996 (Rel. 34, Created)
 DT 01-OCT-1996 (Rel. 34, Last sequence update)
 DT 20-AUG-2001 (Rel. 40, Last annotation update)
 DE BACULOVIRAL IAP REPEAT-CONTAINING PROTEIN 4 (INHIBITOR OF APOPTOSIS
 DE PROTEIN 3) (X-LINKED INHIBITOR OF APOPTOSIS PROTEIN) (X-LINKED IAP)
 DE (IAP-LIKE PROTEIN) (HILP).
 GN BIR4 OR API3 OR IAP3 OR XIAP.
 GN Homo sapiens (Human).
 OS Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Primates; Catarrhini; Homiidae; Homo.
 OX NCBI_TaxID=9606;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Fetal brain;
 RX MEDLINE=96149249; PubMed=8552191;
 RA Liston P., Roy N., Tamai K., LeFebvre C., Baird S., Chertton-Horvat G.,
 RA Farahani R., McLean M., Ikeda J., Mackenzie A., Korneluk R.G.;
 RT "Suppression of apoptosis in mammalian cells by NAIP and a related
 RT family of IAP genes.";
 RL Nature 379:349-353(1996).
 CC [2]
 CC SEQUENCE FROM N.A.
 CC TISSUE=Fetal heart;
 CC MEDLINE=96256286; PubMed=8654366;
 CC Duckett C.S., Nava V.E., Gedrich R.W., Clem R.J., van Dongen J.L.,
 CC A Gilfillan M.C., Shiels H., Hardwick J.M., Thompson C.B.;
 CC "A conserved family of cellular genes related to the baculovirus iap
 CC gene and encoding apoptosis inhibitors.";
 CC EMBO J. 15:2685-2694(1996).
 CC [3]
 CC SEQUENCE FROM N.A.
 CC Grafham D.;
 CC Submitted (APR-2000) to the EMBL/GenBank/DBJ databases.
 CC [4]
 CC FUNCTION.
 CC MEDLINE=97373959; PubMed=8230442;
 CC Devereux Q.L., Takahashi R., Salvesen G.S., Reed J.C.;
 CC "X-linked IAP is a direct inhibitor of cell-death proteases.";
 CC Nature 388:300-304(1997).
 CC -1- FUNCTION: APOPTOTIC SUPPRESSOR. INHIBITOR OF CASPASE-3 AND
 CC CASPASE-7.

[illegible]

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RU Submitted (JUN-1997) to the EMBL/GenBank/DDbj databases.
CC - FUNCTION: APOPTOTIC SUPPRESSOR. INHIBITOR OF CASPASE-3 AND
CC - CASPASE-7 (BY SIMILARITY).
CC CC SUBCELLULAR LOCATION: CYTOPLASMIC (BY SIMILARITY).
CC - SIMILARITY: BELONGS TO THE IAP FAMILY.
CC - SIMILARITY: CONTAINS 3 BIR REPEATS.
CC - SIMILARITY: CONTAINS 1 RING-TYPE ZINC FINGER.
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CC
CC EMBL; U36842; AAC52594.1; -.
CC MBL; U88990; AAB58376.1; -.
CC MGI; MGI:107572; BIRC4.
CC InterPro; IPRO01370; BIR.
CC InterPro; IPRO01841; Zn_fing.
CC Pfam; PF00653; BIR; 3.
CC Pfam; PF00097; zf-C3HC4; 1.
CC SMART; SMO0238; BIR; 3.
CC SMART; SMO0184; RING; 1.
CC PROSITE; PS01282; BIR_REPEAT_1; 3.
CC PROSITE; PS0143; BIR_REPEAT_2; 3.
CC Apoptosis; zinc-finger; Repeat.
KW REPEAT 26 93 BIR 1.
FT REPEAT 163 230 BIR 2.
FT REPEAT 264 329 BIR 3.
FT ZN_FING 449 483 RING-TYPE.
FT CONFLICT 208 208 E->K (IN REF. 2).
FT CONFLICT 317 317 E->D (IN REF. 2).
FT CONFLICT 322 322 W->C (IN REF. 2).
FT CONFLICT 346 346 S->P (IN REF. 2).
FT CONFLICT 360 360 S->P (IN REF. 2).
FT CONFLICT 388 388 I->L (IN REF. 2).
FT CONFLICT 449 449 C->S (IN REF. 2).
FT CONFLICT 462 462 V->F (IN REF. 2).
FT CONFLICT 468 468 V->A (IN REF. 2).
FT CONFLICT 490 490 K->N (IN REF. 2).
SQ SEQUENCE 496 AA; 56079 MW; EC5FAE0799F2CDDB CRC64;

Query Match 49.8%; Score 153; DB 1; Length 496;
Best Local Similarity 50.9%; Pred. No. 1.7e-12;
Matches 27; Conservative 8; Mismatches 18; Indels 0; Gaps 0;

QY 2 ELYRMSTVSTFPAGVPVSERSIARAGFYTYGVNDKVKGCCGLMDNNKLDS 54
   1 |::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|
Db 26 ENRLKTFANFPSSPVASASTLARAGFLYTGBGTVCFCSCHAIDRMGYGS 78

RESULT      8
BIR4__RAT
ID BIR4_RAT STANDARD: PRT; 496 AA.
AC O9R016;
DT 20-AUG-2001 (Rel. 40, Created)
DT 20-AUG-2001 (Rel. 40, Last sequence update)
DE BACULOVIRAL IAP REPEAT-CONTAINING PROTEIN 4 (INHIBITOR OF APOPTOSIS
DE PROTEIN 3) (X-LINKED INHIBITOR OF APOPTOSIS PROTEIN) (X-LINKED IAP)
DE (IAP HOMOLOG A) (RIAP3) (RIAP-3).
GN BIRC4 OR API3 OR XIAP.
OS Rattus norvegicus (rat).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
OX NCBI_TaxID=10116;
RN [1]
RP SEQUENCE FROM N.A.
RA "Rattus norvegicus X-linked inhibitor of apoptosis (riap3) mRNA."
RT

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RL Submitted (Oct-1999) to the EMBL/GenBank/DBJ databases.
CC -1- FUNCTION: APOPTOTIC SUPPRESSOR. INHIBITOR OF CASPASE-3 AND
CC CASPASE-7 (BY SIMILARITY).
CC -1- SUBCELLULAR LOCATION: CYTOPLASMIC (BY SIMILARITY).
CC -1- SIMILARITY: BELONGS TO THE IAP FAMILY.
CC -1- SIMILARITY: CONTAINS 3 BIR REPEATS.
CC -1- SIMILARITY: CONTAINS 1 RING-TYPE ZINC FINGER.
CC -----
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CC or send an email to license@isb-sib.ch).
CC -----
DR EMBL: AB033366; BAA85304.1; -.
DR InterPro: IPR001370; BIR.
DR InterPro: IPR001841; ZnF_fing.
DR Pfam: PF00653; BIR; 3.
DR Pfam: PF00097; zf-C3HC4; 1.
DR SMART: SM00238; BIR; 3.
DR SMART: SM00184; RING; 1.
DR PROSITE: PS01282; BIR_REPEAT_1; 3.
DR PROSITE: PS0143; BIR_REPEAT_2; 3.
DR Apoptosis; Zinc-finger; Repeat.
KW REPEAT 26 93 BIR 1.
FT REPEAT 163 230 BIR 2.
FT REPEAT 264 329 BIR 3.
FT ZN_FING 449 483 RING-TYPE.
SQ SEQUENCE 496 AA; 56072 MW; E230E3C77461A469 CRC64;

Query Match 49.5%; Score 152; DB 1; Length 496;
Best Local Similarity 50.9%; Pred. No. 2.4e-12;
Matches 27; Conservative 8; Mismatches 18; Indels 0; Gaps 0;

QY 2 ELYRMSTYTFPGVPSERSLARAGFYTGVDKVKCFCCGGLMDNMKLGDS 54
DB 26 EFNRLKTFANFPSSSPVASTLARAGFLYTGEDTVQCFSCHAADVDMQYDS 78

RESULT 9
PIAP_PIG 9 STANDARD; PRT; 358 AA.
ID PIAP_PIG STANDARD; PRT; 358 AA.
AC 062640;
DT 15-DEC-1998 (Rel. 37, Created)
DT 15-DEC-1998 (Rel. 37, Last sequence update)
DT 20-AUG-2001 (Rel. 40, Last annotation update)
DE PUTATIVE INHIBITOR OF APOPTOSIS.
GN PIAP.
OS Sus scrofa (Pig).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.
OX NCBI_TaxID=9823;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Aorta;
RA MEDLINE=98162622; PubMed=9501011;
RA Stenlik C., de Martin R., Binder B.R., Lipp J.;
RT "Cytokine induced expression of porcine inhibitor of apoptosis
RT protein (Iap) family member is regulated by NF-kappa B.";
RL Biochem. Biophys. Res. Commun. 243:827-832(1998).
CC -1- SIMILARITY: BELONGS TO THE IAP FAMILY.
CC -1- SIMILARITY: CONTAINS 2 BIR REPEATS.
CC -1- SIMILARITY: CONTAINS 1 CARD DOMAIN.
CC -1- SIMILARITY: CONTAINS 1 RING-TYPE ZINC FINGER.
CC -----
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CC -----
DR EMBL: U79142; AAC39171.1; -.
DR InterPro: IPR001370; BIR.
DR InterPro: IPR001313; CARD.
DR InterPro: IPR001841; ZnF_fing.
DR Pfam: PF00653; BIR; 2.
DR Pfam: PF00619; CARD; 1.
DR Pfam: PF00097; zf-C3HC4; 1.
DR SMART: SM00238; BIR; 2.
DR SMART: SM00114; CARD; 1.
DR SMART: SM00184; RING; 1.
DR PROSITE: PS01282; BIR_REPEAT_1; 2.
DR PROSITE: PS0143; BIR_REPEAT_2; 2.
DR PROSITE: PS50209; CARD; 1.
DR Apoptosis; Zinc-finger; Repeat.
KW REPEAT 4 70 BIR 1.
FT REPEAT 90 157 BIR 2.
FT ZN_FING 311 345 RING-TYPE.
SQ SEQUENCE 358 AA; 40977 MW; EB2268FA9A6190A4 CRC64;

Query Match 45.6%; Score 140; DB 1; Length 358;
Best Local Similarity 49.0%; Pred. No. 6.3e-11;
Matches 25; Conservative 6; Mismatches 20; Indels 0; Gaps 0;

QY 5 RMSTYTFPGVPSERSLARAGFYTGVDKVKCFCCGGLMDNMKLGDS 55
DB 93 RKRTCNMPSLPVHPEDLASNGFYMGSHSDVKCFCCGGLRCHESGDDP 143

RESULT 10
BIRG_MOUSE 10 STANDARD; PRT; 1402 AA.
ID BIRG_MOUSE STANDARD; PRT; 1402 AA.
AC 09JTB3;
DT 20-AUG-2001 (Rel. 40, Created)
DT 20-AUG-2001 (Rel. 40, Last sequence update)
DT 20-AUG-2001 (Rel. 40, Last annotation update)
DE BACULOVIRAL IAP REPEAT-CONTAINING PROTEIN 1G (NEURONAL APOPTOSIS
DE INHIBITOR PROTEIN 7).
GN BIRCI3 OR NAIP7.
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX NCBI_TaxID=10090;
RN [1]
RP SEQUENCE FROM N.A.
RA MEDLINE=20414747; PubMed=10958627;
RA Endrizzi M.G., Hadinoto V., Growney J.D., Miller W., Dietrich W.F.;
RT "Genomic sequence analysis of the mouse Naip gene array.";
RL Genome Res. 10:1095-1102(2000).
CC -1- FUNCTION: PREVENTS MOTOR-NEURON APOPTOSIS INDUCED BY A VARIETY OF
CC SIGNALS.
CC -1- SIMILARITY: CONTAINS 3 BIR REPEATS.
CC -----
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CC -----
DR EMBL: AF242433; AAF82749.1; -.
DR MGD: MGI:1858256; Birc1g.
DR InterPro: IPR001370; BIR.
DR Pfam: PF00653; BIR; 3.
DR SMART: SM00238; BIR; 3.
DR PROSITE: PS01282; BIR_REPEAT_1; 2.
DR PROSITE: PS0143; BIR_REPEAT_2; 3.
DR Apoptosis; Repeat; Multigene family.
FT REPEAT 60 127 BIR 1.

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DR EMBL: AF242431: AAF82751.1: -
 DR EMBL: U66327: AAC52975.1: -
 DR MGD: MGI:1298222: Birc1f.
 DR InterPro: IPR001370: BIR.
 DR Pfam: PF00653: BIR; 3.
 DR SMART: SM00238: BIR; 3.
 DR PROSITE: PS01282: BIR_REPEAT_1; 2.
 DR PROSITE: PS0143: BIR_REPEAT_2; 3.
 DR Apoptosis; Repeat; Multigene family.
 KW REPEAT 60 127 BIR 1.
 FT REPEAT 159 227 BIR 2.
 FT REPEAT 278 345 BIR 3.
 SO SEQUENCE 1403 AA; 159823 MW; 9DA912503358C4E9 CRC64;

Query Match 43.3%; Score 133; DB 1; Length 1403;
 Best Local Similarity 46.3%; Pred. No. 2.1e-09;
 Matches 25; Conservative 6; Mismatches 23; Indels 0; Gaps 0;

OY 2 ELYRMSTYTFPGVPSERSIARAGEFYTGVDKVKCFCCGLMDNMKLGDSP 55
 Db 278 EELRMDFKDFQESFVGEFALYKAGFEYTKKDIYKCFSCGGLKMAEGDDP 331

RESULT 13

ID IAP3_NPVOP STANDARD: PRT; 268 AA.
 AC P41437:
 DT 01-NOV-1995 (rel. 32, Created)
 DT 01-NOV-1995 (rel. 32, Last sequence update)
 DT 20-AUG-2001 (rel. 40, Last annotation update)
 DE APOPTOSIS INHIBITOR 3 (IAP-3).
 GN IAP3 OR IAP.
 OS Oryza pseudoturgata multicapsid polyhedrosis virus (OPMVV).
 OC Viruses; dsDNA viruses, no RNA stage; Baculoviridae;
 OC Nucleopolydrotavirus.
 OX NCBI_TaxId=164623;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=94187094; PubMed=8139034;
 RA Birbaun M.J., Clem R.J., Miller L.K.;
 RT "An apoptosis-inhibiting gene from a nuclear polyhedrosis virus
 RT encoding a polypeptide with Cys/His sequence motifs.";
 RL J. Virol. 68:2521-2528(1994).
 RN [2]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=97271300; PubMed=9126251;
 RA Ahrens C.H., Russell R.R., Funk C.J., Evans J., Harwood S.,
 RA Rohmann G.F.;
 RT "The sequence of the Oryza pseudoturgata multinucleocapsid nuclear
 RT polyhedrosis virus genome.";
 RL Virology 229:381-399(1997).
 CC -1- FUNCTION: ACTS BY BLOCKING CELLULAR APOPTOSIS RATHER THAN BY
 CC PREVENTING VIRAL STIMULATION OF APOPTOSIS.
 CC -1- SIMILARITY: CONTAINS 2 BIR REPEATS.
 CC -1- SIMILARITY: CONTAINS 1 RING-TYPE ZINC FINGER.
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 CC
 CC EMBL: L22564; AAC02610.1: -
 DR EMBL: U75930; AAC59034.1: -
 DR InterPro: IPR001370: BIR.
 DR InterPro: IPR001841: ZnF_ring.
 DR Pfam: PF00653: BIR; 2.
 DR Pfam: PF00097: zf-C3HC4; 1.
 DR SMART: SM00238: BIR; 2.
 DR SMART: SM00184: RING; 1.

DR PROSITE: PS01282: BIR_REPEAT_1; 2.
 DR PROSITE: PS0143: BIR_REPEAT_2; 2.
 KW Apoptosis; Zinc-finger; Repeat.
 FT REPEAT 18 84 BIR 1.
 FT REPEAT 111 178 BIR 2.
 FT ZN_FING 221 255 RING-TYPE.
 SO SEQUENCE 268 AA; 30076 MW; DF89175FDE85A708 CRC64;

Query Match 43.0%; Score 132; DB 1; Length 268;
 Best Local Similarity 42.6%; Pred. No. 5.2e-10;
 Matches 23; Conservative 10; Mismatches 21; Indels 0; Gaps 0;

OY 2 ELYRMSTYTFPGVPSERSIARAGEFYTGVDKVKCFCCGLMDNMKLGDSP 55
 Db 111 EAARLTFEAPKOLKORPEELAEAGFYTGQDKTKCFCCGGLKMEPDAP 164

RESULT 14

ID IAP1_DROME STANDARD: PRT; 438 AA.
 AC Q24306;
 DT 01-NOV-1997 (rel. 35, Created)
 DT 01-NOV-1997 (rel. 35, Last sequence update)
 DT 20-AUG-2001 (rel. 40, Last annotation update)
 DE APOPTOSIS 1 INHIBITOR (INHIBITOR OF APOPTOSIS 1) (DIAP1) (THREAD
 DE PROTEIN).
 GN IAP1 OR TH.
 OS Drosophila melanogaster (fruit fly).
 OC Eukaryota; Metazoa; Arthropoda; Tracheata; Hexapoda; Insecta;
 OC Pterygota; Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha;
 OC Ephyridae; Drosophilidae; Drosophila.
 OX NCBI_TaxId=7227;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Eye, Imaginal disk;
 RX MEDLINE=96128128; PubMed=8548811;
 RA Hay B.A., Wassarman D.A., Rubin G.M.;
 RT "Drosophila homologs of baculovirus inhibitor of apoptosis proteins
 RT function to block cell death.";
 RL Cell 83:1253-1262(1995).
 CC -1- FUNCTION: APOPTOTIC SUPPRESSOR. OVEREXPRESSION SUPPRESSES RPR AND
 CC HID-DEPENDENT CELL DEATH IN THE EYE.
 CC -1- SIMILARITY: BELONGS TO THE IAP FAMILY.
 CC -1- SIMILARITY: CONTAINS 2 BIR REPEATS.
 CC -1- SIMILARITY: CONTAINS 1 RING-TYPE ZINC FINGER.
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 CC
 CC EMBL: LA9440; AAC41609.1: -
 DR FlyBase: FBgn0003691: th.
 DR InterPro: IPR001370: BIR.
 DR InterPro: IPR001841: ZnF_ring.
 DR Pfam: PF00653: BIR; 2.
 DR Pfam: PF00097: zf-C3HC4; 1.
 DR SMART: SM00238: BIR; 2.
 DR SMART: SM00184: RING; 1.
 DR PROSITE: PS01282: BIR_REPEAT_1; 2.
 DR PROSITE: PS0143: BIR_REPEAT_2; 2.
 DR Apoptosis; Zinc-finger; Repeat.
 KW REPEAT 44 110 BIR 1.
 FT REPEAT 226 293 BIR 2.
 FT ZN_FING 391 425 RING-TYPE.
 SO SEQUENCE 438 AA; 48098 MW; A6C22C8EDF5AER29 CRC64;

Query Match 41.4%; Score 127; DB 1; Length 438;

Best Local Similarity 42.6%; Pred. No. 3.9e-09;
Matches 23; Conservative 8; Mismatches 23; Indels 0; Gaps 0;

Qy 2 ELYRMTSTSTPAGVPSERSIARAGFYTGVDKRCFCGGLMDNWKLGDSPP 55
Db 226 ETRARLTFTFEMWPRNLKORHQALEAGFFYTGVDGRVRCFSCGGGLMDNNDPE 279

RESULT 15

ID BIRL_HUMAN STANDARD: PRT: 1403 AA.
AC 013075: 013730: 099796: 075857;
DT 01-NOV-1997 (Rel. 35. Created)
DT 20-AUG-2001 (Rel. 40, Last sequence update)
DE 20-AUG-2001 (Rel. 40, Last annotation update)
DE BACULOVIRAL IAP REPEAT-CONTAINING PROTEIN 1 (NEURONAL APOPTOSIS
DE INHIBITORY PROTEIN).
GN BIRCI OR NAIP.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Hominoidea; Homo.
OX NCBI_TaxID=9606;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Fetal brain;
RX MEDLINE=95112344; PubMed=7813013;
RA Roy N., Mahadevan M.S., McLean M., Shuttler G., Yarghi Z.,
RA Farahani R., Baird S., Besner-Johnston A., Lefebvre C., Kang X.,
RA Salih M., Aubry H., Tamai K., Guan X., Ioannou P., Crawford T.O.,
RA de Jong P.J., Suth L., Ikeda J., Korneluk R.G., Mackenzie A.;
RT "The gene for neuronal apoptosis inhibitory protein is partially
RT deleted in individuals with spinal muscular atrophy.";
RL Cell 80:167-178(1995).

RP SEQUENCE FROM N.A., AND REVISIONS.
RC TISSUE=Brain;
RX MEDLINE=98163755; PubMed=9503025;
RA Chen Q., Baird S.D., Mahadevan M., Besner-Johnston A., Farahani R.,
RA Xuan J.-Y., Kang X., Lefebvre C., Ikeda J.-E., Korneluk R.G.,
RA Mackenzie A.E.;
RT "Sequence of a 131-kb region of 5q13.1 containing the spinal muscular
RT atrophy candidate genes SMN and NAIP.";
RL Genomics 48:121-127(1998).

RN [1]
RA SEQUENCE OF 386-623 FROM N.A.
RA der Steege G., Draaijers T.G., Grootscholten P.M., Osinga J.,
RA Anzevin R., Velona I., Brahe C., Scheffer H., van Ommen G.J.B.,
RA Buys C.H.C.M.;
RL Submitted (MAY-1995) to the EMBL/GenBank/DBJ databases.
RN [4]
RP SEQUENCE OF 222-1403 FROM N.A.
RA Jones K., Graves T., McPherson J.;
RL Submitted (JUN-1998) to the EMBL/GenBank/DBJ databases.
RN [5]
RP FUNCTION.
RC TISSUE=Liver;
RX MEDLINE=96149249; PubMed=8552191;
RA Liston P., Roy N., Tamai K., Lefebvre C., Baird S., Cherton-Horvat G.,
RA Farahani R., McLean M., Ikeda J., Mackenzie A., Korneluk R.G.;
RT "Suppression of apoptosis in mammalian cells by NAIP and a related
RT family of IAP genes.";
RL Nature 379:349-353(1996).

CC -1- FUNCTION: PREVENTS MOTOR-NEURON APOPTOSIS INDUCED BY A VARIETY OF
CC SIGNALS.
CC -1- TISSUE SPECIFICITY: EXPRESSED IN MOTOR NEURONS, BUT NOT IN SENSORY
CC NEURONS. FOUND IN LIVER AND PLACENTA, AND IN A LESSER EXTENT IN
CC SPINAL CORD.
CC -1- DISEASE: MUTATED OR DELETED FORMS OF NAIP HAVE BEEN FOUND IN
CC INDIVIDUALS WITH SPINAL MUSCULAR ATROPHY TYPE I (SMA TYPE 1). SMAS
CC ARE FATAL AUTOSOMAL RECESSIVE DISORDERS SUBCLASSIFIED AS TYPE 1
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CC III (WOLFF-PARK-KUDELBERG-WELANDER DISEASE) BASED UPON THE AGE OF
CC ONSET AND CLINICAL SEVERITY. THESE NEURODEGENERATIVE DISORDERS ARE

CC CHARACTERIZED BY DEGENERATION OF LOWER MOTOR NEURONS, LEADING TO
CC PROGRESSIVE PARALYSIS MUSCULAR ATROPHY. CONCERNS I IN 6000
CC NEBORN.
CC -1- SIMILARITY: CONTAINS 3 BIR REPEATS.

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Qy 2 ELYRMTSTSTPAGVPSERSIARAGFYTGVDKRCFCGGLMDNWKLGDSPP 55
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